

Visiting Laser Fair Inc Southfield R.I.  
with J. Quirk

Mention to Terry Farley, YAK did not attack the  
rubber or slip film layer. The idea is to destroy  
the U-V absorber & dye in slip film layer to ~~convert~~  
~~the~~ convert the slip film to a photo tool on  
the plate

He mention the YAK is 1.02 W. But CO<sub>2</sub>  
is 10.2 W

by control the intensity YAK might change the  
plate. CO<sub>2</sub> might burn the plate. If CO<sub>2</sub> laser  
only burn the surface it will work

Use CO<sub>2</sub> laser to burn slip film on ~~good~~  
position Mylar it melts partially  
Try again on EPL 107 plate  
(1" x 1")

Test 1 intensity same as Test 2 (1" x 1")

Test 3 (1" x 1") weaker. Test 4 double

Intensity of Test 2. (1" x 1")

Test 5 (42 W)

# 1, 2. remove 0.1 - 0.2 mil

# 3 remove 0.1 mil

# 4 removed 0.3 mil

# 5 remove 3 mil (No image contrast)  
layer any more)

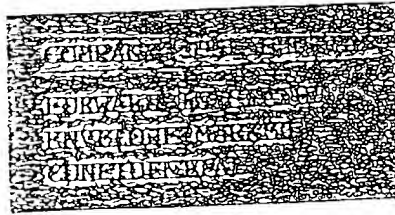
This test shows the feasibility to use laser to make  
photo tool ~~tool~~ directly on photo emulsion printing plate

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To: PATENT DEPARTMENT  
W.R. GRACE & CO.-CONN.  
Grace Specialty Chemicals  
Lexington, MA 02173

Fr: EM&S- Printing Product  
Grace Unit or Division

Disclosure No. \_\_\_\_\_  
(leave blank)



Re: DISCLOSURE OF INVENTION

A. TITLE OF INVENTION (brief but descriptive) No Negative Photo Curable Polymer Plate Through Laser Ablation.

B. INVENTOR(S)

TYPE/PRINT FULL NAME	CITIZENSHIP	GRACE UNIT
<u>Michael W. Yang</u>	<u>U. S. A.</u>	<u>EM&amp;S</u>
<u>Rustom S. Kanga</u>	<u>India</u>	<u>WRC</u>
_____	_____	_____
_____	_____	_____

(Additional inventors are listed on other side)

C. My/Our invention was conceived (first thought of) on \_\_\_\_\_, 19 \_\_\_\_.

D. My/Our invention was first disclosed on \_\_\_\_\_, 19 \_\_\_\_.  
John Rastetter  
to: Edward Murphy of Printing Prod. orally [xx] in writing [ ] (attach copies).

E. The following details and the earliest date are specified as to whether the invention may have been:

- 1) Publicly disclosed as by oral presentation or written publication (Identify audience/recipients if possible by organization and title);  
-- The idea was written in Grace notebook on \_\_\_\_\_, No. 4027, page 71.  
-- On \_\_\_\_\_ meeting with Mr. Terry Feeley, Laser Fare, Inc. in Atlanta, Georgia.

- 2) Sold, offered for sale, or used in commercial production (including any preparatory activity); or

- 3) Sampled, field tested, or evaluated by third parties outside Grace. All secrecy agreements in connection with any of the above are noted.

F. Future sampling, testing, evaluation, sale, commercial activity, disclosure, or publication is XX / is not \_\_\_\_\_ planned. (If planned, give earliest anticipated date and details).

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- G. **RELATED CASES.** Disclosures, patent searches, or cases now on file or contemplated that closely relate to my/our invention are identified as follows:

See Attachment.

- H. **RELEVANT ART.** Products, processes, compositions, or machines etc. similar to my/our invention and (1) used commercially by others or (2) described in the literature (i.e. advertising, patents, specifications, or other publications) are identified (e.g., as by first dates of usage or publication) as follows:

See Attachment.

- I. **SUMMARY OF INVENTION.** Objectives, key elements, novel features, and differences from and advantages over the relevant art (e.g., problems solved) are briefly set forth in a few lines (detail is provided in para. K) as follows:

Photo tool is an essential element to make a photo curable printing plate. Usually a polyester film with Silver Halide deposition is used to make the photo tool, but it is a costly and an environmental concern process. By adding U.V. block reagent in the protection film layer of photo curable plate, it can turn the protection film to a built-in photo tool by laser ablation.

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- J. **RECORDS.** Notebooks, reports, and other documents which substantiate dates on which the invention was conceived are identified as follows (and copies may be attached):

Grace Notebooks 4027, page 71

and Notebook 17021.

- K. **DETAILED DESCRIPTION OF INVENTION**

Sufficiently detailed particulars are herein described (e.g., permissive and preferred operating ranges, temperatures, concentrations, proportions, etc.) to enable those of ordinary skill in the art to duplicate the invention without further experimentation.

Simplified drawings, diagrams, or flow charts (in ink) are provided below where possible. Critical temperatures, concentrations, proportions, or pressures are noted and substantiated where possible by data. Any additional sheets are signed and dated.

A protection film with composition of:

Macromelt 6900	22.75 g
VMP Naphtha	57 g
IPA	120 g
Hexane	62 g
BASF Uvinul D 50	2 g

Coated on ICI Melinex Type 0 by Doctor Blade, the thickness of the film is 0.3 mil. The protection film and cover sheet (Melinex Type 0) was laminated on Flex-Light KOR plate. During the plate image stage, the plate was back exposed first, then peel off the Melinex Type 0 cover sheet and leave the U.V. blocking protection film on the surface of KOR plate. A CO<sub>2</sub> laser gun with digital image program was used to ablate the protection film<sup>2</sup> to produce a photo tool on the KOR surface. The ablated KOR plate can be imaged in U.V. exposure unit without using negative and get a great image quality plate.

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In consideration for my/our employment and in accordance with the terms of my/our employment, I/we hereby offer and assign to my/our employer (W.R. Grace & Co.-Conn. or employer-subsidiary) to the extent permitted by the national laws which apply to me/us as Inventor(s), any and all my/our United States and world-wide rights to the invention described hereinabove and entitled

No Negative Photo Curable Polymer Plate Through Laser Ablation

(TITLE OF INVENTION - should be same as in Paragraph A)

I/we authorize said employer or its successor or assignee to apply for patents in any country in its name or in my/our names as deemed necessary and agree to execute all papers necessary for such patent applications.

[Signature]  
Inventor Signature      Date

Rustum S. Kanga  
Inventor Signature      Date

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Social Security No.

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USE INDELIBLE INK AND DATE ALL SIGNATURES  
FOR ADDITIONAL INVENTORS, COPY THIS PAGE AND ATTACH TO THIS MEMORANDUM

Route Immediately to--

This disclosure was read and  
thoroughly understood by me:

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Filing an application on  
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